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| 09/543,754      | 04/05/2000  | Osamu Sekihata       | FUSA 17.211         | 6383             |

7590 01/24/2007  
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| EXAMINER |
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HOM, SHICK C

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| ART UNIT | PAPER NUMBER |
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2616

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/24/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

09/543,754

Applicant(s)

SEKIHATA, OSAMU

Examiner

Shick C. Horn

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 10/23/06 have been fully considered but they are not persuasive.
2. In response to applicant's argument in page 2 lines 7-10 of the remarks, the recitation "A frame forwarding installation for receiving frames ... from a plurality of paths" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Further, in page 2 lines 7-10, applicant argued that because Yeo is related to video signal it is not frame forwarding and does not suggest a plurality of paths as claimed is not persuasive because the video signal of Yeo are digital, i.e. see para. 0002, it clearly reads on frame forwarding as

Art Unit: 2616

claimed and Fig. 5 which shows the channels 4, 5, 7, and 11 clearly reads on the plurality of paths.

In page 2 lines 11-15, applicant argued that Yeo does not store an identifier of the frame and determining whether frame already been stored so as to discard the received frame or transmit it is not persuasive because Fig. 5 shows frames from a plurality of channels being captured and duplicate frames such as the first three frames of channel 5 identified as being duplicate would discard the second and third frames clearly reads on discarding received frame as in claim 12.

In page 3 lines 4-11, applicant argued that the prior art do not teach or suggest means for determining whether an application is a real-time application or matches a registered address by reference to the header is not persuasive because Bushmitch et al. in the abstract recite the real-time identification being incorporated into the format of each transmitted data packet clearly anticipate determining whether an application is a real-time application or matches a registered address by reference to the header.

In page 3 line 12 to page 4 line 2, applicant argued that the prior art do not teach or suggest sending in duplicate the received frame to a plurality of paths in parallel is not persuasive because Williams et al. in col. 2 lines 11-22 teach

Art Unit: 2616

real-time data being transmitted redundantly over multiple paths so that the delay experienced by the user will be only the delay of the shortest path clearly anticipate sending in duplicate the received frame to a plurality of paths in parallel.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States or

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 12 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Yeo et al. (2002/0070958).

Regarding claims 12, 14:

Yeo et al. disclose the frame forwarding installation for receiving a frame, which is directed toward a subordinate

Art Unit: 2616

destination terminal, from a path and transmitting the frame to the destination terminal, comprising:

a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal (Fig. 2 shows the summarizing system including the control program and the data storage 240 and Fig. 3 shows the detailed concept of the control program including the means for frame capture having the frame store 340 and frame index 345); and

a redundant-frame filter for determining whether the frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the received frame is the frame that has already been received (see paragraph 0054 which recite means and step of identifying and removing redundant frames from the frame store), and

transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received (see Fig. 2a and paras. 0038-0039 recite the computer system 230 having control program 233 which determines which frames are captured and stored in storage 240 and transmitted to display 271 and 275) as in claim 12 and wherein the frame identifier is a computational result obtained by subjecting a specific portion of the received frame to a fixed

Art Unit: 2616

computation as in claim 14 (see paragraph 0053 which recite different methods for identifying redundant frames including using the color histograms, and motion vector correlation of the frames as the identifier clearly reads on the identifier as argued in page 11 line 14 to page 12 line 11 of the remarks of 5/31/05 and the frame identifier being a computational result as in claim 14).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-3, 5-7, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (5,883,891) in view of Bushmitch et al. (6,275,471).

Regarding claims 1, 5, 9:

Williams et al. disclose a frame forwarding installation for sending a received frame to a path conforming to a

Art Unit: 2616

destination address contained in a header of the frame, which has been received from a transmitting terminal (see col. 1 lines 21-25, the background of the invention, which recite data being in packets having a header containing control and source and destination address information clearly anticipate the frame containing a header including the destination address), comprising: a frame transmitting unit for sending in duplicate the received frame to a plurality of paths in parallel in the direction of a destination if the application is a real-time application, is a predetermined type, or the addresses match, respectively (see abstract, col. 2 lines 11-22 which recite because of delays of transmission and lost connections, audio quality or phone conversation, and real-time critical type data transmissions are redundantly send over multiple diverse paths, and col. 2 line 66 to col. 3 line 8 which recite the use of destination address in the header including pre-selected routes clearly anticipate sending in duplicate frame to a plurality of paths in parallel in the direction of a destination if the application is a real-time application, is a predetermined type, or the addresses match).

Regarding claims 2, 6:

Williams et al. disclose that the application of the host layer being a real-time application and a port number of the



Art Unit: 2616

received frame matches a port number of the real-time application and the type of application of the host layer frame a TCP port number of the received frame (see col. 2 lines 11-22 which recite the reserved permanent virtual circuits and dedicated transmission line for real-time data transmission clearly reads on real-time application being application when a port number of the received frame matches a port number of the real-time application as in claim 2 and col. 2 line 66 to col. 3 line 8 which recite the use of the Internet service provider clearly reads on the TCP port number as in claim 6).

Regarding claims 3, 7, 10:

Williams et al. disclose wherein said frame transmitting unit has an address table which specifies the plurality of interface units in association with a destination address and sends the received frame to the plurality of paths via the plurality of interface units, which conform to the destination address, if the application is a real-time application (see col. 7 line 62 to col. 8 line 26 which recite the use of a route ID table clearly reads on the address table).

For claims 1-3, 5-7, and 9-10, Williams et al. disclose all the subject matter of the claimed invention with the exception of an application, application-type, or address-match discriminating unit for referring to the header of the received

Art Unit: 2616

frame and determining whether an application of a host layer in the transmitting terminal is a real-time application, the application-type, or transmission-source address matches an address already registered as recited in claims 1-3, 6, 9.

Bushmitch et al. from the same or similar fields of endeavor teach that it is known to provide the application, application-type, or address-match discriminating unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application, the application-type, or transmission-source address matches an address already registered (see the abstract which recite the real-time identification technique being incorporated in the format of each transmitted data packet; col. 4 line 63 to col. 5 line 14 which recite the use of the RTP header format in the fields in the real-time header portion of the data packet having RTP payloads; and col. 6 lines 25-48 which recite receiving the entity's application protocol communication function prior to the time when the sender entity initiates data transmission and the initiation message being defined as an RTCP application specific message clearly anticipate the unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a

Art Unit: 2616

real-time application. Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide an application, application-type, or address-match discriminating unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application, the application-type, or transmission-source address matches an address already registered as taught by Bushmitch et al. in the frame forwarding installation of Williams et al. The application, application-type, or address-match discriminating unit for referring to the header of the received frame and determining whether an application of a host layer in the transmitting terminal is a real-time application, the application-type, or transmission-source address matches an address already registered can be implemented by connecting the Unit for referring to the header for determining whether an application is a real-time application of Bushmitch et al. to transmitting host of Williams et al. The motivation for using the discriminating unit as taught by Bushmitch et al. in the frame forwarding installation of Williams et al. being that it provides more efficiency for the system since the system can more easily discriminate between real-time and non-real-time data at the transmitting end.

Art Unit: 2616

7. Claims 4, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (5,883,891) and Bushmitch et al. (6,275,471) in view of Kuwabara et al. (5,909,439).

Regarding claims 4, 8, 11:

For claims 4, 8, 11, Williams et al. and Bushmitch et al. disclose the installation described in paragraph 6 of this office action. Williams et al. and Bushmitch et al. disclose all the subject matter of the claimed invention with the exception of the tag attaching unit for attaching a tag, which includes a frame identifier, to a frame; wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not as in claims 4, 8, 11.

Kuwabara et al. from the same or similar fields of endeavor teach that it is known to provide the tag attaching unit for attaching a tag, which includes a frame identifier, to a frame; wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received

Art Unit: 2616

or not (see col. 6 lines 28-38 and col. 7 lines 4-16 which recite the frames including the identifier and sequence number used for reconstituting the original information clearly reads on the tag attaching unit for attaching a tag, which includes a frame identifier). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the tag attaching unit for attaching a tag, which includes a frame identifier, to a frame; wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not as taught by Kuwabara et al. in the communications installation of Williams et al. and Bushmitch et al. The tag attaching unit for attaching a tag, which includes a frame identifier, to a frame; wherein a frame forwarding installation on the side of a receiving terminal utilizes the frame identifier when determining whether an identical frame has already been received or not can be implemented by connecting the tag attaching unit to the transmitting apparatus of Williams et al. and Bushmitch et al. The motivation for using the tag attaching unit as taught by Kuwabara et al. in the communication apparatus of Williams et al. and Bushmitch et al. being that it

Art Unit: 2616

provides more efficiency for the system since the system can quickly identify the frames at the receiving end.

8. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo et al. (2002/0070958) in view of Kuwabara et al. (5,909,439).

Regarding claims 13 and 15:

For claims 13, 15, Yeo et al. disclose the installation described in paragraph 4 of this office action. Yeo et al. disclose all the subject matter of the claimed invention with the exception of wherein the frame identifier is a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame as in claims 13, 15.

Kuwabara et al. from the same or similar fields of endeavor teach that it is known to provide wherein the frame identifier is a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame (see col. 6 lines 28-38 and col. 7 lines 4-16 which recite the frames including the identifier and sequence number used for reconstituting the original information clearly reads on the tag attaching unit for

Art Unit: 2616

attaching a tag, which includes a frame identifier). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide wherein the frame identifier is a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame as taught by Kuwabara et al. in the communications installation of Yeo et al. The frame identifier being a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame can be implemented by providing the frame identifier as a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame to the transmitting apparatus of Yeo et al. The motivation for providing wherein the frame identifier is a sequence number contained in the frame and wherein the frame identifier is a frame identifier contained in a tag that has been attached to a received frame as taught by Kuwabara et al. in the communication apparatus of Yeo et al. being that it provides more efficiency for the system since the system can quickly identify the frames at the receiving end.

Art Unit: 2616

9. . Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (5,883,891) and Bushmitch et al. (6,275,471) in view of Yeo et al. (2002/0070958).

Regarding claims 16-18:

Williams et al. and Bushmitch et al. disclose the frame forwarding installation for sending a frame described in paragraph 6 of this office action. Williams et al. and Bushmitch et al. disclose all the subject matter of the claimed invention with the exception of the frame forwarding installation for receiving frames, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, comprising: a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and a redundant-frame filter for determining whether the frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the received frame is the frame that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received as in claims 16-18.



Art Unit: 2616

Yeo et al. from the same or similar fields of endeavor teach that it is known to provide frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, comprising: a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and a redundant-frame filter for determining whether the frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the received frame is the frame that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received as in claims 16-18 (see paragraph 0053 which recite different methods for identifying redundant frames using color histograms and paragraph 0054 which recite identifying and removing redundant frames from the frame store clearly reads on the storage unit and the redundant-frame filter for discarding frame that has already been received as claimed). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was

Art Unit: 2616

made to provide frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, comprising: a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and a redundant-frame filter for determining whether the frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the received frame is the frame that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received as taught by Yeo et al. in the frame forwarding installation for sending frame of Williams et al. and Bushmitch et al. The frame forwarding installation for receiving a frame, which is directed toward a subordinate destination terminal, from a path and transmitting the frame to the destination terminal, comprising: a storage unit for storing an identifier of a frame that has been transmitted to the destination terminal; and a redundant-frame filter for determining whether the frame identifier of a frame newly received from a path has been stored in said storage unit, discarding the received frame if the received frame is the frame

Art Unit: 2616

that has already been received, and transmitting the received frame to the destination terminal and storing the identifier of the received frame in said storage unit if the received frame is not the frame that has already been received can be implemented by connecting the installation for receiving a frame of Yeo et al. into installation for sending frames of Williams et al. and Bushmitch et al. The motivation for connecting the frame receiver as taught by Yeo et al. to the frame transmitter of Williams et al. and Bushmitch et al. being that it provides more means for receiving the frames from the transmitting end and to provide a system in which the transmitter can function as designed.

#### **Conclusion**

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2616

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SH SH

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